

82 Goldthwaite Road • P.O. Box 1747 • Auburn, Maine 04210
93 Scott Drive • Westbrook, Maine 04092
50 Arthur Reno Road • West Bath, Maine 04530

Phone: (207) 777-7100 • Fax: (207) 777-7171
Phone: (207) 780-0523 • Fax: (207) 780-1521
Phone: (207) 386-5100 • Fax: (207) 386-5151

MID MAINE FOUNDATIONS

ATTN: TOM COWARD

57 HOWARD DRIVE

MONMOUTH, ME 04259

cc: ISLAND CARPENTRY, INC.

ATTN: MIKE WHITE

email:islandcarpentry@yahoo.com

Mix Design Submittals for:

Multi-Family Housing
62 Cumberland Ave. - Portland, ME

As prepared by:

AUBURN CONCRETE

Remi Delcourt, Sales & Quality Control

P.O. Box 1747 - 82 Goldthwaite Road

Auburn, Maine 04210

Office: (207) 777-7100

Facsimile: (207) 777-7171

E-Mail: remi@auburnconcrete.com

www.auburnconcrete.com



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Mid Maine Foundations

MultiFamily Housing
 62 Cumberland Ave. - Portland, Me

3500PSI - Non-Air Entrained, 3/4" Crushed Stone Mix Design Submittal (FOOTINGS)

11/29/2010

3534SNA

		Weight-SSD (lbs)	Volume (Cu.Ft.)	Sources
CEMENT, T I/II	ASTM C-150	540	2.75	DRAGON PRODUCTS COMPANY
COARSE AGG	ASTM C-33: #57/ #67	1780	10.76	K & K EXCAVATION
FINE AGGREGATE	ASTM C-33	1400	8.60	PORTLAND SAND & GRAVEL
WATER	U.S. GAL/CY: 33.0	275	4.41	CITY OF WESTBROOK
	AIR CONTENT (%):	2.0 +/- 1.5%	0.54	
	WATER/CEMENT RATIO:	0.51		
	SLUMP (Inches):	4.00	± 1.00"	7.00" ± 1.00" (After Superplasticizer*)
	YIELD:	147.7 PCF	27.1 Cu.Ft.	
GLENUM 7500	ASTM C494, TYPE A,F	3.50 oz/cwt	18.9 US oz/CY	BASF/MASTER BUILDERS
*GLENUM 7500 dosage is for <u>MIDRANGE</u> applications				

OPTIONAL:

POZZUTEC 20+	ASTM C-494, Type C,E	10.00 oz/cwt	0.0 US oz/CY	BASF/MASTER BUILDERS
* GLENUM 7500 meets the requirements of ASTM C494 for Type A (water-reducing) and Type F (high-range water -reducing).				

MIX IDENTIFICATION #:

3534SNA

DESIGN STRENGTH:

3500 PSI @ 28 DAYS



PROJECT:
CONTRACTOR:

W/C: 0.52
MAX. C.A.: 3/4"

8/5/2010

DATE	PROJECT	ID#	SLUMP	% AIR	CONC	TEMPERATURE AIR	7 DAY	28 DAY	MOVING AVG. OF 3
2/22/2008	SCARBOROUGH GATEWAY	810-39	6.00	1.8	46	6	3660	4175	
2/29/2008	SCARBOROUGH GATEWAY	810-40	8.25	2.2	44	6	4280	4930	
2/29/2008	SCARBOROUGH GATEWAY	810-41	6.25	2.3	40	11	4080	4805	4637
2/29/2008	SCARBOROUGH GATEWAY	810-42	6.00	2.3	40	17	3830	4375	4703
3/10/2008	SCARBOROUGH GATEWAY	810-43	6.00	1.9	58	25	4510	5435	4872
3/11/2008	SCARBOROUGH GATEWAY	810-44	6.50	2.8	56	20	3890	5030	4947
3/11/2008	SCARBOROUGH GATEWAY	810-45	6.75	2.7	55	32	3960	5235	5233
3/11/2008	SCARBOROUGH GATEWAY	810-46	5.50	2.5	59	38	4400	5470	5245
3/11/2008	SCARBOROUGH GATEWAY	810-47	7.00	3.0	61	40	3860	4970	5225
3/10/2009	HANNAFORD-AUGUSTA	904-31	5.25	2.7	76	38	3710	4605	5015
3/11/2009	HANNAFORD-AUGUSTA	904-32	4.75	1.8	59	47	3390	4085	4553
3/16/2009	HANNAFORD-AUGUSTA	904-36	5.50	2.7	61	38	3240	3720	4137
3/17/2009	HANNAFORD-AUGUSTA	904-37	6.50	2.5	68	33	3630	4750	4185
3/17/2009	HANNAFORD-AUGUSTA	904-38	6.25	2.7	55	34	3750	4520	4330
4/16/2009	HANNAFORD-WINTHROP	932-27	4.50	2.0	55	51	3150	4050	4440
4/20/2009	HANNAFORD-WINTHROP	932-28	5.25	2.1	66	51	2850	3875	4148
4/24/2009	HANNAFORD-WINTHROP	932-31	6.00	1.6	54	48	3475	5025	4317
4/24/2009	HANNAFORD-WINTHROP	932-32	5.75	2.1	53	46	3500	5115	4672
4/30/2009	HANNAFORD-WINTHROP	932-33	5.75	2.1	64	48	3565	4450	4863
4/30/2009	HANNAFORD-WINTHROP	932-34	6.00	1.7	62	51	3700	4450	4672
4/30/2009	HANNAFORD-WINTHROP	932-35	5.25	2.2	62	53	4140	5200	4700
5/5/2009	HANNAFORD-WINTHROP	932-36	5.00	1.9	62	48	3950	4715	4788
5/12/2009	HANNAFORD-WINTHROP	932-37	5.00	1.7	64	49	3170	4125	4680
6/25/2009	MAINE FAMILY CU	14220-6	3.50	2.9	75		3360	4140	4327
7/15/2009	MAINE FAMILY CU	14220-7	5.00	2.4	73		3020	3720	3995
8/25/2009	MAINE FAMILY CU	14220-8	5.50	2.8	83		2880	3425	3762
9/1/2009	MAINE FAMILY CU	14220-9	6.00	3.0	75		2980	3705	3617
9/1/2009	MAINE FAMILY CU	14220-10	6.00	2.8	78		2840	3515	3548
10/21/09	CMP-SERVICE BLDG	991-6	6.00	2.7	54	32	3600	4485	3902
10/21/09	CMP-SERVICE BLDG	991-7	5.75	3.0	57	41	3740	4655	4218
10/21/09	CMP-SERVICE BLDG	991-8	6.00	3.0	62	45	3090	4220	4453
5/7/2010	BRUNSWICK ELEM SCH	124-48	6.00	3.2	67	63	3840		
5/7/2010	BRUNSWICK ELEM SCH	124-49	6.00	2.9	67	63	3580		
5/20/2010	BRUNSWICK ELEM SCH	124-52	6.00	2.4	70	55	3930		
5/20/2010	BRUNSWICK ELEM SCH	124-53	4.00	2.8	74	60	3490		
5/20/2010	BRUNSWICK ELEM SCH	124-54	5.50	2.1	74	63	3650		
5/27/2010	BRUNSWICK ELEM SCH	124-55	6.25	2.3	70	62	3850	4180	4352
5/27/2010	BRUNSWICK ELEM SCH	124-56	6.75	2.0	70	65	3770	4000	4133
5/27/2010	BRUNSWICK ELEM SCH	124-57	7.25	2.1	71		3820	3965	4048
6/9/2010	BRUNSWICK ELEM SCH	124-58	6.00	2.7	66	62	3660		
6/16/2010	BRUNSWICK ELEM SCH	124-59	6.75	2.5	73	60	3720	4515	4160
6/18/2010	BRUNSWICK ELEM SCH	124-60	7.00	1.8	71	64	3530	4295	4258
6/18/2010	BRUNSWICK ELEM SCH	124-61	6.25	2.1	72	69	3880	4420	4410

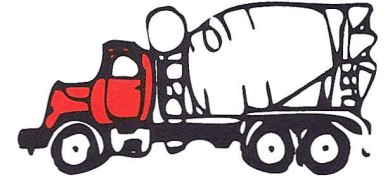
COUNT: 43 43 43 43 37 43 37 35

RANGE: LOW 3.50 1.6 40 6 2840 3425 3548
HIGH 8.25 3.2 83 69 4510 5470 5245

AVERAGE OF ALL: 5.87 2.4 63 44 3626 4442 4444
STANDARD DEVIATION: 0.8 0.4 10.0 16.8 393 525 429
COEFFICIENT OF VARIATION: 14.3 18.0 15.7 38.0 10.9 11.8 9.7

ACI 214 SUMMARY:

AVERAGE STRENGTH:	4442 PSI	
AVERAGE STRENGTH BASED ON:	37 TESTS	
STANDARD DEVIATION:	525 PSI	CONTROL IS GOOD
OVERALL COEFFICIENT OF VARIATION:	11.8 %	
WITHIN-TEST STANDARD DEVIATION:	162 PSI	
WITHIN-TEST COEFFICIENT OF VARIATION:	3.6 %	CONTROL IS VERY GOOD
BATCH-TO-BATCH STANDARD DEVIATION:	499 PSI	
RECOMMENDED STRENGTH:	4223 PSI	



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Mid Maine Foundations

MultiFamily Housing
 62 Cumberland Ave. - Portland, Me

4500PSI - Air Entrained, 3/4" Crushed Stone Mix Design Submittal (Foundations)

11/29/2010

4534SA

		<u>Weight-SSD (lbs)</u>	<u>Volume (Cu.Ft.)</u>	<u>Sources</u>
CEMENT, T I/II	ASTM C-150	658	3.35	DRAGON PRODUCTS COMPANY
COARSE AGG	ASTM C-33: #57/#67	1800	10.89	K & K EXCAVATION
FINE AGGREGATE	ASTM C-33	1100	6.75	PORTLAND SAND & GRAVEL
WATER U.S. GAL/CY:	33.0	275	4.41	CITY OF WESTBROOK
	AIR CONTENT (%):	6.0 +/- 1.5%	1.63	
	WATER/CEMENT RATIO:	0.42		
	SLUMP (Inches):	4.00	± 1.00"	7.00" ± 1.00" (After Superplasticizer*)
	YIELD:	141.9 PCF	27.0 Cu.Ft.	

*GLENIUM 7500 ASTM C494, TYPE A,F 4.00 oz/cwt 26.3 US oz/CY BASF/MASTER BUILDERS

*GLENIUM 7500 dosage is for **MIDRANGE** applications

MICROAIR ASTM C-260 0.15 oz/cwt 1.0 US oz/CY BASF/MASTER BUILDERS

OPTIONAL:

POZZUTEC 20+ ASTM C-494, Type C,E 10.00 oz/cwt 65.8 US oz/CY BASF/MASTER BUILDERS

* GLENIUM 7500 meets the requirements of ASTM C494 for Type A (water-reducing) and Type F (high-range water -reducing).

MIX IDENTIFICATION #:

DESIGN STRENGTH:

4034SA

4000 PSI @ 28 DAYS

PROJECT:
CONTRACTOR:W/C: 0.45
MAX. C.A.: 3/4"

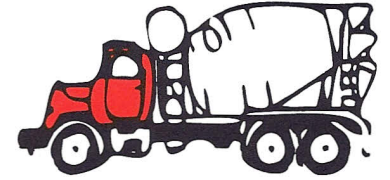
DATE	PROJECT	ID#	SLUMP	% AIR	TEMPERATURE		7 DAY	28 DAY	MOVING AVG. OF 3
					CONC	AIR			
10/22/2007	SCARBOROUGH GATEWAY	810-1	6.50	5.0	64	52	4250	5760	
10/23/2007	SCARBOROUGH GATEWAY	810-2	6.50	4.2	69	68	4300	5730	
10/26/2007	SCARBOROUGH GATEWAY	810-3	6.00	4.6	66	52	4210	5640	5710
10/29/2007	SCARBOROUGH GATEWAY	810-4	7.00	4.0	57	48	4250	5575	5648
10/31/2007	SCARBOROUGH GATEWAY	810-5	7.50	3.7	61	50	5010	6235	5817
11/5/2007	SCARBOROUGH GATEWAY	810-8	6.50	5.1	54	41	4100	5145	5652
11/7/2007	SCARBOROUGH GATEWAY	810-9	7.00	5.3	61	43	4230	4965	5448
11/9/2007	SCARBOROUGH GATEWAY	810-10	7.50	5.7	61	40	4460	5440	5183
11/12/2007	SCARBOROUGH GATEWAY	810-11	7.00	5.3	58	29	3890	4545	4983
11/19/2007	SCARBOROUGH GATEWAY	810-15	6.00	5.8	59	34	4320	5190	5058
11/26/2007	SCARBOROUGH GATEWAY	810-18	4.50	5.0	65	40	4490	4915	4883
11/26/2007	SCARBOROUGH GATEWAY	810-19	6.25	5.0	62	38	4580	5835	5313
12/5/2007	SCARBOROUGH GATEWAY	810-23	6.75	6.6	54	25	5060	5545	5432
12/6/2007	SCARBOROUGH GATEWAY	810-24	6.50	4.5	54	25	4560	5110	5497
12/10/2007	SCARBOROUGH GATEWAY	810-25	6.25	6.1	58	24	4100	5050	5235
12/11/2007	SCARBOROUGH GATEWAY	810-26	5.50	5.4	56	25	3480	4210	4790
12/12/2007	SCARBOROUGH GATEWAY	810-27	5.00	5.6	58	25	4700	5870	5043
12/13/2007	SCARBOROUGH GATEWAY	810-29	5.50	6.2	59	30	3570	5525	5202
12/14/2007	SCARBOROUGH GATEWAY	810-28	5.50	6.3	58	25	3360	4595	5330
1/4/2008	SCARBOROUGH GATEWAY	810-34	4.00	5.2	60	35	3290	4335	4818
1/7/2008	SCARBOROUGH GATEWAY	810-35	5.50	5.9	60	38	2830	4280	4403
3/27/2008	CABELAS	4992-82	5.00	5.5	69		3730	4530	4382
3/27/2008	CABELAS	4992-83	5.50	5.1	67		3950	4865	4558
4/2/2008	CABELAS	4992-86	5.00	5.4	67		4010	4355	4583
4/3/2008	CABELAS	4992-88	6.00	5.8	64		3510	4065	4428
4/8/2008	CABELAS	4992-90	5.50	5.6	56		3830	4455	4292
4/9/2008	CABELAS	4992-91	5.00	5.8	56		4200	4950	4490
4/10/2008	CABELAS	4992-92	6.00	5.8	59		3790	4560	4655
4/11/2008	CABELAS	4992-93	5.50	6.7	58		3280	4145	4552
6/6/2008	RESIDENCE INN-AUBURN	14064-14	4.25	6.0	67		4090	4655	4453
6/12/2008	RESIDENCE INN-AUBURN	14064-15	5.00	5.6	78		4370	5195	4665
7/22/2008	A/L AIRPORT HANGAR	14091-1	4.00	5.8	85		4000	4635	4828
8/4/2008	A/L AIRPORT HANGAR	14091-2	4.25	7.4	84		3830	4460	4763
8/5/2008	A/L AIRPORT HANGAR	14091-3	4.25	5.2	82		4230	5070	4722
8/6/2008	A/L AIRPORT HANGAR	14091-4	4.25	4.6	76		4470	5790	5107
8/11/2008	A/L AIRPORT HANGAR	14091-5	4.50	5.4	77		3770	4450	5103
8/11/2008	A/L AIRPORT HANGAR	14091-6	6.50	5.2	78		3570	4445	4895
8/13/2008	A/L AIRPORT HANGAR	14091-7	4.00	5.6	78		4290	4450	4448
8/15/2008	A/L AIRPORT HANGAR	14091-8	6.50	5.0	86		3950	4860	4585
8/16/2008	A/L AIRPORT HANGAR	14091-9	4.00	5.1	87		4120	4710	4673
8/20/2008	A/L AIRPORT HANGAR	14091-10	4.50	5.5	80		4160	5035	4868
8/21/2008	A/L AIRPORT HANGAR	14091-11	4.00	6.3	86		4130	4750	4832
8/25/2008	BAILEY ISL CRIBSTONE BRIDGE	899-2	5.50	6.4	84	82	4000	4890	4892
1/15/2009	HANNAFORD-WINTHROP	932-7	5.25	5.6	58	5	3635	4230	4623
8/20/2009	PINETREE WASTE EXP-BATH	994-1	5.00	4.6	83	86	4620	5660	4927
9/10/2009	PINETREE WASTE EXP-BATH	994-2	3.50	4.7	69	50	4790	5165	5018
9/10/2009	PINETREE WASTE EXP-BATH	994-3	4.25	5.9	67	50	4360	4625	5150
9/10/2009	PINETREE WASTE EXP-BATH	994-4	5.00	4.8	72	54	5000	5570	5120
9/16/2009	PINETREE WASTE EXP-BATH	994-5	5.00	4.8	75	60	4010	5015	5070
9/16/2009	PINETREE WASTE EXP-BATH	994-6	4.50	4.6	71	60	4190	5160	5248
9/19/2009	WILD RIVER BRG-GILEAD	14284-1	6.00	6.6	68		4360	4615	4930
9/19/2009	WILD RIVER BRG-GILEAD	14284-2	5.75	6.2	66		4180	5335	5037
9/19/2009	WILD RIVER BRG-GILEAD	14284-3	6.25	6.5	68		4080	4570	4840
9/19/2009	WILD RIVER BRG-GILEAD	14284-4	5.50	7.1	72		4300	5080	4995
9/22/2009	PINETREE WASTE EXP-BATH	994-7	5.50	5.0	72	62	4490		
9/22/2009	PINETREE WASTE EXP-BATH	994-8	6.50	5.0	72	65	4630		
9/29/2009	PINETREE WASTE EXP-BATH	994-9	6.00	4.5	72	63	4140	4805	4818
10/8/2009	PINETREE WASTE EXP-BATH	994-10	6.50	5.2	68	53	4110	4940	4942
10/21/2009	PINETREE WASTE EXP-BATH	994-11	6.50	5.0	64	48	4220	5285	5010
10/28/2009	PINETREE WASTE EXP-BATH	994-12	5.00	6.0	59	47	2750	4975	5067

11/13/2009	PINETREE WASTE EXP-BATH	994-13	5.00	6.0	62	32	3380		
11/25/2009	PINETREE WASTE EXP-BATH	994-14	6.00	6.0	63	43	3740	4545	4935
11/25/2009	PINETREE WASTE EXP-BATH	994-15	5.00	6.0	63	43	4510	5290	4937
11/25/2009	PINETREE WASTE EXP-BATH	994-16	6.00	5.0	63	43	3770	4730	4855
12/18/2009	CMMC ED ADDN-UNDERPIN	127-4	5.00	5.5	63	18	4170	5490	5170
12/22/2009	CMMC ED ADDN-UNDERPIN	127-5	5.00	4.5	53	21	4930	5160	5127
12/24/2009	CMMC ED ADDN-UNDERPIN	127-6	5.00	5.0	58	33	3470	4885	5178
12/29/2009	CMMC ED ADDN-UNDERPIN	127-7	6.00	4.8	52	18	4820	5700	5248
12/31/2009	CMMC ED ADDN-UNDERPIN	127-8	6.00	5.0	63	32	3760	5340	5308
1/5/2010	CMMC ED ADDN-UNDERPIN	127-9	5.00	3.8	58	28	3920	4885	5308
1/6/2010	CMMC ED ADDN-UNDERPIN	127-10	5.00	4.0	47	31	4790	6040	5422
1/8/2010	CMMC ED ADDN-UNDERPIN	127-12	5.00	4.5	58	18	3570	4410	5112
1/12/2010	CMMC ED ADDN-UNDERPIN	127-13	6.00	4.5	63	11	4310	5665	5372
1/21/2010	CMMC ED ADDN-UNDERPIN	127-19	5.75	5.1	64	36	4540	4975	5017
1/25/2010	CMMC ED ADDN-UNDERPIN	127-24	5.00	5.0	64	33	3850	4575	5072
1/27/2010	CMMC ED ADDN-UNDERPIN	127-25	6.00	5.0	64	41	2960	4385	4645
1/28/2010	CMMC ED ADDN-UNDERPIN	127-26	6.00	5.2	51	32	3420	4395	4452
1/29/2010	CMMC ED ADDN-UNDERPIN	127-29	5.00	4.5	61	18	3730	4610	4463
2/1/2010	CMMC ED ADDN-UNDERPIN	127-30	3.00	3.0	75	23	4080	5020	4675
2/2/2010	CMMC ED ADDN-UNDERPIN	127-31	6.00	5.0	58	18	3500	4345	4658
2/3/2010	CMMC ED ADDN-UNDERPIN	127-32	6.00	5.0	58	21	3770	4815	4727
2/4/2010	CMMC ED ADDN-UNDERPIN	127-33	5.00	4.0	54	28	4820	5455	4872
3/5/2010	ST. MARY'S RMC OR ADDN	14346-1	3.75	5.2	64	45	4340	5565	5278
3/8/2010	ST. MARY'S RMC OR ADDN	14346-2	5.00	5.2	64	54	3390	4065	5028
3/10/2010	ST. MARY'S RMC OR ADDN	14346-3	4.00	6.1	66	56	3340	4720	4783
3/11/2010	ST. MARY'S RMC OR ADDN	14346-4	3.50	5.5	66	45	4370	5295	4693
3/12/2010	BRUNSWICK ELEM SCHOOL	124-30	5.00	4.5	70	43	3710		
3/12/2010	ST. MARY'S RMC OR ADDN	14346-5	3.00	5.7	63	48	4320	5490	5168
3/16/2010	ST. MARY'S RMC OR ADDN	14364-6	4.50	5.0	65	58	4720	4895	5227
3/17/2010	ST. MARY'S RMC OR ADDN	14364-7	4.50	6.4	66	58	3120	4815	5067
3/25/2010	ST. MARY'S RMC OR ADDN	14364-8	4.00	4.5	67	58	3530	4750	4820
5/6/2010	LINCOLN ST. PARKING GARAGE	14331-1	5.50	4.5	68		3900	4560	4708
5/6/2010	LINCOLN ST. PARKING GARAGE	14331-2	5.00	5.0	69		3750	4415	4575
5/6/2010	LINCOLN ST. PARKING GARAGE	14331-3	5.50	4.5	71		3860	4360	4445
5/6/2010	LINCOLN ST. PARKING GARAGE	14331-4	6.00	5.0	73		3620	4360	4378
5/12/2010	LINCOLN ST. PARKING GARAGE	14331-5	3.75	4.6	72		3370	4345	4355
5/12/2010	LINCOLN ST. PARKING GARAGE	14331-6	3.00	4.5	73		4100	4795	4500
5/12/2010	LINCOLN ST. PARKING GARAGE	14331-7	5.50	4.6	73		3720	4720	4620
5/12/2010	LINCOLN ST. PARKING GARAGE	14331-8	5.75	4.6	70		3640	4105	4540
5/18/2010	LINCOLN ST. PARKING GARAGE	14331-9	5.50	6.8	72		3610	4270	4365

COUNT:	100	100	100	100	67	100	96	94
RANGE:	LOW	3.00	3	47	5	2750	4065	4292
	HIGH	7.50	7.4	87	86	5060	6235	5817
AVERAGE OF ALL:		5.30	5.3	66	40	4024	4918	4916
STANDARD DEVIATION:		1.0	0.8	8.6	16.4	486	500	341
COEFFICIENT OF VARIATION:		18.4	14.6	13.1	40.6	12.1	10.2	6.9

ACI 214 SUMMARY:

AVERAGE STRENGTH:	4918 PSI	
AVERAGE STRENGTH BASED ON:	96 TESTS	
STANDARD DEVIATION:	500 PSI	CONTROL IS VERY GOOD
OVERALL COEFFICIENT OF VARIATION:	10.2 %	
WITHIN-TEST STANDARD DEVIATION:	168 PSI	
WITHIN-TEST COEFFICIENT OF VARIATION:	3.4 %	CONTROL IS VERY GOOD
BATCH-TO-BATCH STANDARD DEVIATION:	471 PSI	
RECOMMENDED STRENGTH:	4670 PSI	



82 Goldthwaite Road • P.O. Box 1747 • Auburn, Maine 04210
 93 Scott Drive • Westbrook, Maine 04092
 50 Arthur Reno Road • West Bath, Maine 04530

Phone: (207) 777-7100 • Fax: (207) 777-7171
 Phone: (207) 780-0523 • Fax: (207) 780-1521
 Phone: (207) 386-5100 • Fax: (207) 386-5151

Mid Maine Foundations

MultiFamily Housing
 62 Cumberland Ave. - Portland, Me

4500PSI - Non-Air Entrained, 3/4" Crushed Stone Mix Design Submittal (Interior Floors/Slabs)

11/29/2010

4534SNA

		Weight-SSD (lbs)	Volume (Cu.Ft.)	Sources
CEMENT, T I/II	ASTM C-150	658	3.35	DRAGON PRODUCTS COMPANY
COARSE AGG	ASTM C-33: #57/#67	1800	10.89	K & K EXCAVATION
FINE AGGREGATE	ASTM C-33	1295	7.95	PORTLAND SAND & GRAVEL
WATER	U.S. GAL/CY: 33.0	275	4.41	CITY OF WESTBROOK
	AIR CONTENT (%):	2.0 +/- 1.5%	0.54	
	WATER/CEMENT RATIO:	0.42		
	SLUMP (Inches):	4.00	± 1.00" 7.00" ± 1.00" (After Superplasticizer*)	
	YIELD:	148.5 PCF	27.1 Cu.Ft.	
GLENIUM 7500	ASTM C494, TYPE A,F	4.00 oz/cwt	26.3 US oz/CY	BASF/MASTER BUILDERS
OPTIONAL:				
POLYMESH	ASTM C-1116 TYPE III	1.5 lbs/cy		O'DEA CONCRETE PRODUCTS
POZZUTEC 20+	ASTM C-494, Type C,E	10.00 oz/cwt	65.8 US oz/CY	BASF/MASTER BUILDERS

* GLENIUM 7500 meets the requirements of ASTM C494 for Type A (water-reducing) and Type F (high-range water-reducing).

MIX IDENTIFICATION #:

4034SNA

DESIGN STRENGTH:

4000 PSI @ 28 DAYS



PROJECT:

W/C: 0.47

CONTRACTOR:

MAX. C.A.: 3/4"

DATE	PROJECT	ID#	SLUMP	% AIR	TEMPERATURE AIR CONC	7 DAY	28 DAY	MOVING AVG. OF 3
11/13/2007	CABELAS	4992-40	5.00	2.8	62	4600	6005	
11/13/2007	CABELAS	4992-41	4.00	2.6	65	4580	6135	
11/13/2007	CABELAS	4992-42	5.00	3.2	67	4550	5540	5893
11/13/2007	CABELAS	4992-43	5.00	3.2	67	3970	5460	5712
11/20/2007	CABELAS	4992-47	4.75	2.8	65	4540	6065	5688
11/20/2007	CABELAS	4992-48	5.00	3.0	64	4610	6110	5878
11/20/2007	CABELAS	4992-49	5.25	3.0	67	4200	5715	5963
12/4/2007	CABELAS	4992-52	4.50	1.8	58	4630	5570	5798
12/4/2007	CABELAS	4992-53	5.00	2.0	55	4150	5425	5570
12/4/2007	CABELAS	4992-54	4.50	1.8	55	4410	5810	5602
12/4/2007	CABELAS	4992-55	5.00	1.9	55	4170	5805	5680
12/5/2007	CABELAS	4992-56	5.00	1.8	52	3360	5015	5543
12/5/2007	CABELAS	4992-57	5.25	1.6	58	3320	4470	5097
12/5/2007	CABELAS	4992-58	4.75	2.2	60	3590	4705	4730
12/5/2007	CABELAS	4992-59	5.00	2	65	2780	3930	4368
12/5/2007	CABELAS	4992-60	4.50	1.6	63	3570	4680	4438
12/5/2007	CABELAS	4992-61	5.00	1.8	60	3590	5185	4598
12/6/2007	CABELAS	4992-62	6.00	2.3	60	3940	5355	5073
12/10/2007	CABELAS	4992-63	5.00	2.5	54	3590	4965	5168
12/11/2007	CABELAS	4992-64	5.75	2.6	65	3990	4875	5065
12/11/2007	CABELAS	4992-65	5.50	2.9	67	3600	5555	5132
12/11/2007	CABELAS	4992-66	6.00	2.6	65	4480	5155	5195
12/11/2007	CABELAS	4992-67	5.75	2.8	61	3530	5010	5240
12/17/2007	CABELAS	4992-68	6.00	2.5	63	4230	5215	5127
12/17/2007	CABELAS	4992-69	5.50	2.3	63	4220	5090	5105
12/17/2007	CABELAS	4992-70	5.50	2.7	61	4200	5470	5258
12/19/2007	CABELAS	4992-71	5.50	3.1	66	3500	4650	5070
12/19/2007	CABELAS	4992-72	5.75	2.9	61	3270	4440	4853
12/19/2007	CABELAS	4992-73	5.50	2.3	68	3420	4880	4657
12/19/2007	CABELAS	4992-74	5.50	2.3	62	2940	4350	4557
12/19/2007	CABELAS	4992-75	5.75	2.6	68	2670	4470	4567
12/20/2007	CABELAS	4992-76	5.50	2.8	67	2840	4365	4395
12/20/2007	CABELAS	4992-77	5.50	2.6	61	3370	4935	4590
12/20/2007	CABELAS	4992-78	5.25	2.4	61	3580	5055	4785
12/20/2007	CABELAS	4992-79	5.25	2.7	66	3330	4510	4833
12/20/2007	CABELAS	4992-80	5.25	2.5	66	3460	4490	4685
2/20/2008	MDOT GARAGE-TOPSHAM	220610	6.00	1.8	68		4487	4931
2/20/2008	MDOT GARAGE-TOPSHAM	220611	6.00	1.8	65		4237	4605
2/20/2008	MDOT GARAGE-TOPSHAM	220612	6.00	2.3	60		4473	4399
2/20/2008	MDOT GARAGE-TOPSHAM	220613	6.00	2.0	64		4365	4358
2/20/2008	MDOT GARAGE-TOPSHAM	220614	6.00	1.1	62		4288	4375
2/20/2008	MDOT GARAGE-TOPSHAM	220615	6.00	1.8	59		4445	4366
2/20/2008	MDOT GARAGE-TOPSHAM	220616	6.00	2.1	56		4290	4341
7/7/2008	RESIDENCE INN- AUBURN	14064-30	4.75	3.2	83	4330	4660	4465
10/30/2008	WASHBURN & DOUGHTY	14151-11	5.50	2.6	56	3820	4515	4488

10/30/2008	WASHBURN & DOUGHTY	14151-12	5.50	2.7	56	3840	4540	4572
11/5/2008	WASHBURN & DOUGHTY	14151-13	5.00	2.4	58	3750	4320	4458
11/12/2008	WASHBURN & DOUGHTY	14151-14	5.50	3.6	59	3980	4555	4472
11/13/2008	WASHBURN & DOUGHTY	14151-15	5.00	3.3	62	4250	4970	4615
4/17/2009	WASHBURN & DOUGHTY	14151-25	7.25	2.5	66	3360	4255	4593
5/5/2009	WASHBURN & DOUGHTY	14151-26	6.25	2.7	64	3260	4000	4408
5/5/2009	WASHBURN & DOUGHTY	14151-27	5.75	2.5	63	3500	4245	4167
5/5/2009	WASHBURN & DOUGHTY	14151-28	6.50	2.6	62	3700	4150	4132
5/5/2009	WASHBURN & DOUGHTY	14151-29	6.25	2.8	62	3590	4205	4200
5/5/2009	WASHBURN & DOUGHTY	14151-30	6.25	2.8	60	3370	4340	4232
5/21/2009	WASHBURN & DOUGHTY	14151-31	6.50	2.6	70	3410	4185	4243
5/21/2009	WASHBURN & DOUGHTY	14151-32	6.00	2.8	71	3370	4165	4230

COUNT:		57	57	57	57	50	57	55
RANGE:	LOW	4.00	1.1		52	2670	3930	4132
	HIGH	7.25	3.6		83	4630	6135	5963
AVERAGE OF ALL:		5.48	2.5		63	3766	4845	4847
STANDARD DEVIATION:		0.6	0.5		5.0	509	591	517
COEFFICIENT OF VARIATION:		10.8	20.0		8.0	13.5	12.2	10.7

ACI 214 SUMMARY:

AVERAGE STRENGTH:	4845 PSI	
AVERAGE STRENGTH BASED ON:	57 TESTS	
STANDARD DEVIATION:	591 PSI	CONTROL IS GOOD
OVERALL COEFFICIENT OF VARIATION:	12.2 %	
WITHIN-TEST STANDARD DEVIATION:	157 PSI	
WITHIN-TEST COEFFICIENT OF VARIATION:	3.2 %	CONTROL IS VERY GOOD
BATCH-TO-BATCH STANDARD DEVIATION:	570 PSI	
RECOMMENDED STRENGTH:	4878 PSI	



P.O. Box 191, U.S. Route 1 • Thomaston, Maine 04861 • 207-594-5555

MILL TEST RESULTS Laboratory at Thomaston, Maine	Date: September, 2010 Cement Type: I / II
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CHEMICAL DATA	Percent	PHYSICAL DATA	
Silicon Dioxide.....	20.4	Specific Surface.....	378
Aluminum Dioxide.....	4.3	Blaine (sq m /kg)	
Ferric Oxide.....	3.0	(Per ASTM C 204)	
Calcium Oxide.....	62.5	Percent Passing 325 Mesh	98.4
Magnesium Oxide.....	3.2	(Per ASTM C 430)	
Sulphur Trioxide.....	3.7	Compressive Strength (psi)	
Loss on Ignition.....	1.4	(Per ASTM C 109)	
Insoluble Residue.....	0.3	1 day.....	2670
Tricalcium Silicate.....	55	3 day.....	3870
Dicalcium Silicate.....	17	7 day.....	4690
Tricalcium Aluminate.....	6	28 day.....	
Sum of C3S + 4.75*C3A....	86	Vicat Setting Time	
Sodium Oxide.....	0.4	(Per ASTM C 191)	
Potassium Oxide.....	1.3	Initial (min.).....	110
Equivalent Alkalies.....	1.25	Final (min.).....	220
(Chemical Analysis all per ASTM C 114)		Air Content (%).....	7.3
		(Per ASTM C 185)	
		Autoclave Expansion (%)...	0.12
		(Per ASTM C 151)	
		Expansion in water (%).....	0.010
		(Per ASTM C 1038)	
		Heat of Hydration (%)	80
		(Per ASTM C186)	
		Certified by:	

We hereby certify that this cement complies with current ASTM C 150, AASHTO M-85 and CSA A3001 Type GU specifications.



- - - 2009 - 2010 GRADATION SUMMARY - - -

3/4" Quarry Stone

Source: **K & K Excavation - Christian Hill Quarry, Auburn, Maine**

Specific Gravity: **2.64** Absorption: **0.55%** Tested by: Summit Labs **7/9/10**

		2"	1½"	1"	¾"	½"	⅜"	#4	#8	#200	
9/1/2009	RD-W		100	100	95	45	21	7	5		
9/2/2009	RB-W		100	100	96	51	26	9	5		
9/8/2009	RD-W		100	100	97	54	28	8	5		
9/8/2009	RD-WB		100	100	96	45	20	6	3	0.4	
9/8/2009	RB-W		100	100	99	55	27	9	5		
9/10/2009	RD-W		100	100	97	54	27	8	5		
9/14/2009	RB-W		100	100	96	41	20	6	3		
9/16/2009	RD-W		100	100	96	44	20	6	3		
9/17/2009	RB-W		100	100	97	50	26	8	4		
9/18/2009	RD-W		100	100	96	44	20	6	3.2		
9/21/2009	RB-W		100	100	97	45	21	5	2.4		
9/22/2009	RD-W		100	100	96	41	19	5	3.4		
9/23/2009	RD-W		100	100	95	52	21	6	4		
9/25/2009	RD-W		100	100	97	47	24	9	5		
9/28/2009	RB-W		100	100	98	52	26	8	4		
9/29/2009	K&K		100	100	95	50	25	7	4	0.6	
9/30/2009	RD-W		100	100	97	45	20	6	4		
10/1/2009	RB-W		100	100	98	50	23	7	4		
10/2/2009	RD-WB		100	100	93	44	23	9	5		
10/5/2009	RD-W		100	100	97	53	23	6	4		
10/12/2009	RD-A		100	100	93	47	25	10	4	0.9	
10/21/2009	RD-A		100	100	94	42	21	7	5		
10/29/2009	RD-A		100	100	97	52	25	8	5	0.8	
11/3/2009	RD-A		100	100	95	45	20	7	5	0.8	
11/16/2009	RD-A		100	100	95	48	21	8	5	0.7	
11/18/2009	RB-W		100	100	96	46	23	8	5		
12/2/2009	RD-WB		100	100	95	56	27	8	5	0.7	
12/3/2009	RD-A		100	100	96	55	29	10	5	0.7	
12/11/2009	RD-A		100	100	95	50	26	9	4.5	0.3	
12/14/2009	RD-A		100	100	97	49	26	8	3	0.9	
12/21/2009	RD-A		100	100	96	51	23	7	4	0.5	
12/28/2009	RD-A		100	100	96	49	25	9	5	0.5	
1/11/2010	RD-A		100	100	95	53	27	7	4	0.4	
1/26/2010	SR-A		100	100	96	50	24	8	5	0.8	
1/28/2010	SR-A		100	100	96	57	32	10	4	1.0	
2/2/2010	SR-A		100	100	94	55	30	10	5	0.9	
2/10/2010	RD-A		100	100	96	54	28	10	5	0.9	
3/8/2010	RD-WB		100	100	94	57	36	10	5	0.8	
3/18/2010	RD-WB		100	100	94	41	20	7	5		
3/26/2010	RD-WB		100	100	92	41	20	8	5.6		
4/15/2010	RD-CHQ		100	100	99	53	24	7	3	0.7	w
4/29/2010	RD-A		100	100	99	48	22	9	5		
4/30/2010	RD-A		100	100	95	55	26	9	5	1.1	w
5/3/2010	RD-A		100	100	96	51	25	8	5		
5/5/2010	RD-W		100	100	96	54	26	9	5		
5/6/2010	SR-W		100	100	94	44	23	9	6		
5/11/2010	RD-A		100	100	97	51	23	9	4	1.0	w

5/12/2010	RD-W	100	100	94	48	25	9	5		
5/13/2010	RD-A	100	100	95	43	22	8	5		
5/14/2010	RD/SR-A	100	100	95	49	29	11	5	1.0	w
5/17/2010	SR-W	100	100	93	47	25	10	5		
5/21/2010	RB-W	100	100	95	47	27	10	5		
5/25/2010	SR-W	100	100	94	48	22	6	3		
6/4/2010	RB-W	100	100	98	44	22	8	5		
6/7/2010	K&K	100	100	94	50	24	7	3	0.4	
6/11/2010	SR-WB	100	100	93	44	21	7	4		
6/16/2010	SR-W	100	100	98	45	20	7	4		
6/24/2010	RD-CHQ	100	100	91	37	21	7	4		
6/30/2010	SR-WB	100	100	92	39	20	6	4		
6/30/2010	K&K	100	100	92	42	22	8	3	0.6	
7/6/2010	SR-A	100	100	90	38	21	7	5		
7/8/2010	RD-WB	100	100	92	42	23	9	5		
7/9/2010	SR-WB	100	100	93	39	21	8	5		
7/14/2010	SR-CHQ	100	100	94	40	20	6	3		
7/16/2010	SR-WB	100	100	92	42	23	9	5		
7/16/2010	SR-CHQ	100	100	95	45	25	8	3		
8/11/2010	SR-A	100	100	92	41	23	8	4		
8/19/2010	RD-W	100	100	95	45	21	7	4		
8/23/2010	SR-A	100	100	94	40	20	7	5		
8/30/2010	SR-A	100	100	97	54	32	10	4		
9/1/2010	K&K	100	100	91	49	27	6	2	0.4	
9/10/2010	MDOT	100	100	96	46	25	8	4	0.2	
9/17/2010	SR-W	100	100	93	40	21	6	3		
9/27/2010	SR-A	100	100	94	47	30	10	5		
10/14/2010	K&K	100	100	95	48	31	7	3	0.4	
10/18/2010	RD-A	100	100	95	53	31	10	5		
10/18/2010	SR-WB	100	100	94	45	25	8	5		
10/25/2010	SR-CHQ	100	100	96	56	33	10	4		
10/26/2010	SR-WB	100	100	96	56	31	10	4		
10/26/2010	SR-A	100	100	96	56	33	10	4		
11/5/2010	RD-W	100	100	93	48	24	7	3	0.4	
11/17/2010	SR-A	100	100	93	46	25	9	5		
11/23/2010	K&K	100	100	95	51	26	6	3	0.5	
AVERAGE		100.0	100.0	95.3	47.6	24.2	7.8	4.3	0.7	

SPECIFICATION: #57 100 95-100 ----- 25-60 ----- 0-10 0-5 <1.5
ASTM C33 #67 100 90-100 ----- 20-55 0-10 0-5 <1.5



- - - 2009 - 2010 GRADATION SUMMARY - - -

Concrete Sand

Source: **Portland Sand & Gravel - Gray, Maine**

Specific Gravity: **2.62**

Absorption: **0.73%**

Tested by: **Summit Labs 5/3/10**

		FM	Color	3/8"	#4	#8	#16	#30	#50	#100	#200
10/1/2009	RB-W	2.79		100	96	89	74	44	15	4	0.7
10/1/2009	RD-W	2.84		100	96	89	73	41	15	4	0.7
10/2/2009	RB-W	2.86		100	96	89	72	40	14	3	0.6
10/2/2009	RD-W	2.77		100	98	93	76	41	13	3	0.7
10/2/2009	RD-WB	2.73		100	97	91	75	46	16	3	0.5
10/5/2009	RB-W	2.76		100	98	92	76	41	13	3	0.7
10/5/2009	RD-W	2.74		100	98	92	76	43	14	3	0.7
10/12/2009	RD-A	2.81		100	97	91	73	42	14	2	0.6
10/20/2009	RD-A	2.64	< 1	100	98	92	77	47	18	4	0.7
10/29/2009	RD-A	2.68		100	98	92	76	48	16	3	0.6
11/3/2009	RD-A	2.70		100	97	90	74	47	18	3	0.8
11/16/2009	RD-A	2.68	< 1	100	97	90	74	48	19	4	0.8
11/18/2009	RB-W	2.76		100	96	89	73	46	17	4	0.8
11/20/2009	RD-A	2.64		100	97	91	75	50	19	3	0.6
12/2/2009	RD-WB	2.62		100	97	91	77	51	18	4	0.7
12/3/2009	RD-A	2.66		100	97	91	75	49	18	3	0.6
12/11/2009	RD-A	2.70		100	97	91	75	47	17	4	0.8
12/14/2009	RD-A	2.80		100	97	89	71	44	16	3	0.7
12/21/2009	RD-A	2.81		100	98	89	70	43	16	3	0.8
12/28/2009	SR-A	2.78		100	98	89	70	44	18	4	0.8
1/7/2010	RD-A	2.68		100	97	90	74	49	18	3	0.8
1/13/2010	RB-W	2.84		100	94	84	67	43	23	5	0.6
1/26/2010	SR-A	2.82		100	98	88	67	42	17	4	0.9
1/28/2010	RD-A	2.64		100	98	91	75	48	19	4	0.9
2/2/2010	SR-A	2.75		100	98	89	72	44	18	4	0.8
3/8/2010	RD-WB	2.82		100	98	90	74	43	15	3	0.6
3/18/2010	RD-WB	2.59		100	98	86	66	40	17	4	0.8
3/19/2010	RD-WB	2.79	< 1	100	97	89	72	44	16	3	0.5
3/31/2010	RD-A	2.88		100	97	87	67	41	16	4	0.8
4/13/2010	RD-WB	2.88		100	97	90	69	40	14	2	0.5
4/14/2010	RB-W	2.77		100	97	90	74	43	14	2	0.4
4/21/2010	RD-A	2.70		100	98	91	75	47	17	3	0.7
4/25/2010	RD-A	2.81		100	97	91	74	41	13	3	0.5
4/30/2010	RD-A	2.80	< 1	100	97	89	71	43	16	3	0.6
5/1/2010	RD-W	2.81		100	97	91	74	41	13	3	0.5
5/4/2010	SR-W	2.63		100	98	92	77	49	18	4	0.8
5/6/2010	RB-W	2.70		100	97	90	74	45	19	5	1.0
5/10/2010	RD-W	2.76		100	97	89	73	44	17	4	0.8
5/12/2010	RD-A	2.68		100	97	91	75	46	19	5	0.9
5/13/2010	RD-A	2.62		100	97	90	76	50	20	5	1.0
5/13/2010	RD-PSG	2.58		100	97	91	76	50	22	6	1.2
5/14/2010	SR-A	2.62		100	97	90	74	49	22	5	1.0
5/15/2010	RD-A	2.73		100	97	90	73	45	18	3	0.7
5/17/2010	RB-W	2.59		100	97	90	76	50	22	6	1.1
5/21/2010	RD-A	2.66	< 1	100	97	90	74	47	20	6	1.1
5/24/2010	SR-W	2.62		100	96	89	75	50	22	6	1.1

5/28/2010	DE-WB	2.59		100	97	90	75	50	22	5	1.0
6/4/2010	RB-W	2.58		100	97	90	75	51	24	6	1.0
6/7/2010	RD-A	2.66		100	97	90	75	48	19	4	1.2
6/15/2010	SR-WB	2.69		100	97	91	75	46	18	4	0.8
6/16/2010	RD-A	2.54		100	96	90	76	54	25	5	1.0
6/17/2010	RD-WB	2.65		100	95	88	74	50	22	6	1.0
6/18/2010	RD-A	2.60		100	97	91	76	51	21	5	1.0
7/6/2010	SR-PSG	2.57		100	97	91	77	51	22	6	1.2
7/14/2010	SR-WB	2.53		100	97	90	76	51	24	7	1.5
7/15/2010	RD-A	2.72	< 1	100	97	90	72	46	19	4	0.9
7/21/2010	SR-W	2.67		100	97	90	72	46	20	6	1.4
8/17/2010	RD-WB	2.62		100	97	91	76	47	20	7	1.3
8/20/2010	RD-W	2.66	< 1	100	97	90	75	46	20	6	1.1
8/25/2010	RD-WB	2.65		100	98	91	76	47	19	5	1.0
9/9/2010	SR-PSG	2.58		100	97	91	80	50	21	6	1.2
9/15/2010	SR-A	2.48	< 1	100	95	88	74	57	28	8	1.8
9/29/2010	RB-W	2.71		100	96	89	73	46	20	6	1.3
10/4/2010	RD-A	2.63		100	97	90	74	49	22	5	1.2
10/7/2010	SR-PSG	2.87		100	97	89	71	37	14	4	0.8
10/12/2010	DE-WB	2.79		100	97	89	72	43	16	4	0.7
10/18/2010	RD-A	2.52		100	98	93	78	52	23	5	1.1
10/22/2010	RD-W	2.61	< 1	100	98	92	77	49	19	5	0.9
10/25/2010	SR-PSG	2.68		100	97	91	76	46	18	4	0.7
10/26/2010	SR-WB	2.68		100	98	91	76	46	17	4	0.8
10/29/2010	RD-W	2.59		100	97	92	79	50	19	4	0.8
11/3/2010	RD-A	2.65		100	98	92	77	47	18	4	0.9
11/10/2010	RD-W	2.59		100	97	91	77	51	21	4	0.7
11/17/2010	SR-A	2.68		100	97	91	74	48	19	4	0.8
11/19/2010	RB-W	2.59		100	98	92	78	48	20	5	1.0

AVERAGE **2.70** **100.0** **97.1** **90.2** **74.2** **46.4** **18.4** **4.3** **0.9**

SPECIFICATION: **2.3 - 3.1** **100** **95-100** **80-100** **50-85** **25-60** **10-30** **2-10** **<3**

Description

GLENIUM® 7500 multi-range water-reducing admixture is based on the next generation of polycarboxylate technology found in all of the Glenium 7000 series products. This technology combines state-of-the-art molecular engineering with a precise understanding of regional cements to provide specific and exceptional value to all phases of the concrete construction process.

GLENIUM 7500 admixture is very effective in producing concrete mixtures with different levels of workability including applications that require self-consolidating concrete (SCC). The use of GLENIUM 7500 admixture results in faster setting characteristics as well as improved early age compressive strength. GLENIUM 7500 admixture will meet ASTM C 494/C 494M requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

Applications

Recommended for use in:

- Concrete with varying water reduction requirements (5-40%)
- Concrete where control of workability and setting time is critical
- Concrete where high flowability, increased stability, high early and ultimate strengths, and improved durability are needed
- Production of Rheodynamic® Self-Consolidating Concrete (SCC) mixtures
- 4x4™ Concrete for fast-track construction
- Pervious Concrete mixtures

GLENIUM® 7500

Multi-Range Water-Reducing Admixture

Features

- Excellent early strength development
- Controls setting characteristics
- Optimizes slump retention/setting relationship
- Consistent air entrainment
- Dosage flexibility

Benefits

- Faster turnover of forms due to accelerated early strength development
- Reduces finishing labor costs due to optimized set times
- Use in fast track construction
- Minimizes the need for slump adjustments at the jobsite
- Less jobsite QC support required
- Fewer rejected loads
- Optimizes concrete mixture costs

Performance Characteristics

Concrete produced with GLENIUM 7500 admixture achieves significantly higher early age strength than first generation polycarboxylate high-range water-reducing admixtures. GLENIUM 7500 admixture also strikes the perfect balance between workability retention and setting characteristics in order to provide efficiency in placing and finishing concrete.

Guidelines for Use

Dosage: GLENIUM 7500 admixture has a recommended dosage range of 2-15 fl oz/cwt (130-975 mL/100 kg) of cementitious materials. For most applications, dosages in the range of 5-8 fl oz/cwt (325-520 mL/100 kg) will provide excellent performance. For high performance and Rheodynamic Self-Consolidating Concrete mixtures, dosages of up to 12 fl oz/cwt (780 mL/100 kg) of cementitious materials can be utilized. Because of variations in concrete materials, jobsite conditions and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local BASF Admixtures representative.

Mixing: GLENIUM 7500 admixture can be added with the initial batch water or as a delayed addition. However, optimum water reduction is generally obtained with a delayed addition.

Product Data: GLENIUM® 7500

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: GLENIUM 7500 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressing steel or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of GLENIUM 7500 admixture.

Compatibility: GLENIUM 7500 admixture is compatible with most admixtures used in the production of quality concrete, including normal, mid-range and high-range water-reducing admixtures, air-entrainers, accelerators, retarders, extended set control admixtures, corrosion inhibitors, and shrinkage reducers.

Do not use GLENIUM 7500 admixture with admixtures containing beta-naphthalene sulfonate. Erratic behaviors in slump, workability retention and pumpability may be experienced.

Storage and Handling

Storage Temperature: GLENIUM 7500 admixture must be stored at temperatures above 40 °F (5 °C). If GLENIUM 7500 admixture freezes, thaw and reconstitute by mechanical agitation.

Shelf Life: GLENIUM 7500 admixture has a minimum shelf life of 6 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Admixtures representative regarding suitability for use and dosage recommendations if the shelf life of GLENIUM 7500 admixture has been exceeded.

Packaging

GLENIUM 7500 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: GLENIUM 7500 admixture.

Additional Information

For additional information on GLENIUM 7500 admixture or on its use in developing concrete mixtures with special performance characteristics, contact your BASF Admixtures representative.

BASF Admixtures is a leading provider of innovative chemical admixtures and silica fume for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets in the United States and Canada. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

Description

Micro Air air-entraining admixture provides concrete with extra protection by creating air bubbles that are ultrastable, small and closely spaced – a characteristic especially useful in the types of concrete known for their difficulty to entrain and maintain the air content desired.

Even when used at a lower dosage than standard air-entraining admixtures, Micro Air admixture meets the requirements of ASTM C 260, AASHTO M 154, and CRD-C 13.

Applications

Recommended for use in:

- Concrete exposed to cyclic freezing and thawing
- Production of high-quality normal or lightweight concrete (heavyweight concrete normally does not contain entrained air)

MICRO AIR®

Air-Entraining Admixture

Features

- Ready-to-use in the proper concentration for rapid, accurate dispensing
- Greatly improved stability of air-entrainment
- Ultra stable air bubbles

Benefits

- Increased resistance to damage from cyclic freezing and thawing
- Increased resistance to scaling from deicing salts
- Improved plasticity and workability
- Improved air-void system in hardened concrete
- Improved ability to entrain and retain air in low-slump concrete, concrete containing high-carbon content fly ash, concrete using large amounts of fine materials, concrete using high-alkali cements, high-temperature concrete, and concrete with extended mixing times
- Reduced permeability – increased watertightness
- Reduced segregation and bleeding

Performance Characteristics

Concrete durability research has established that the best protection for concrete from the adverse effects of freezing and thawing cycles and deicing salts results from: proper air content in the hardened concrete, a suitable air-void system in terms of bubble size and spacing and adequate concrete strength, assuming the use of sound aggregates and proper mixing, transporting, placing, consolidation, finishing and curing techniques. Micro Air admixture can be used to obtain adequate freezing and thawing durability in a properly proportioned concrete mixture, if standard industry practices are followed.

Air Content Determination: The total air content of normal weight concrete should be measured in strict accordance with ASTM C 231, “Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method” or ASTM C 173/C 173M, “Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.”

The air content of lightweight concrete should only be determined using the Volumetric Method. The air content should be verified by calculating the gravimetric air content in accordance with ASTM C 138/C 138M, “Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete.” If the total air content, as measured by the Pressure Method or Volumetric Method and as verified by the Gravimetric Method, deviates by more than 1-1/2%, the cause should be determined and corrected through equipment calibration or by whatever process is deemed necessary.

Product Data: MICRO AIR®

Guidelines for Use

Dosage: There is no standard dosage for Micro Air admixture. The exact quantity of air-entraining admixture needed for a given air content of concrete varies because of differences in concrete making materials and ambient conditions. Typical factors that might influence the amount of air entrained include: temperature, cementitious materials, sand gradation, sand-aggregate ratio, mixture proportions, slump, means of conveying and placement, consolidation and finishing technique.

The amount of Micro Air admixture used will depend upon the amount of entrained air required under actual job conditions. In a trial mixture, use 1/8 to 1-1/2 fl oz/cwt (8-98 mL/100 kg) of cement. In mixtures containing water-reducing or set-control admixtures, the amount of Micro Air admixture needed is somewhat less than the amount required in plain concrete. Due to possible changes in the factors that can affect the dosage of Micro Air admixture, frequent air content checks should be made during the course of the work. Adjustments to the dosage should be based on the amount of entrained air required in the mixture at the point of placement. If an unusually high or low dosage of Micro Air admixture is required to obtain the desired air content, consult your BASF Construction Chemicals representative. In such cases, it may be necessary to determine that, in addition to a proper air content in the fresh concrete, a suitable air-void system is achieved in the hardened concrete.

Dispensing and Mixing: Add Micro Air admixture to the concrete mixture using a dispenser designed for air-entraining admixtures; or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount. For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, fine aggregate or with the initial batch water. If the concrete mixture contains lightweight aggregate, field evaluations should be conducted to determine the best method to dispense the air-entraining admixture.

Precaution

In a 2005 publication from the Portland Cement Association (PCA R&D Serial No. 2789), it was reported that problematic air-void clustering that can potentially lead to above normal decreases in strength was found to coincide with late additions of water to air-entrained concretes. Late additions of water include the conventional practice of holding back water during batching for addition at the jobsite. Therefore, caution should be exercised with delayed additions to air-entrained concrete. Furthermore, an air content check should be performed after any post-batching addition to an air-entrained concrete mixture.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: Micro Air admixture will neither initiate nor promote corrosion of reinforcing and prestressing steel embedded in concrete, or of galvanized steel floor and roof systems. No calcium chloride or other chloride-based ingredients are used in the manufacture of this admixture.

Compatibility: Micro Air admixture may be used in combination with any BASF Construction Chemicals admixture, unless stated otherwise on the data sheet for the other product. When used in conjunction with other admixtures, each admixture must be dispensed separately into the mixture.

Storage and Handling

Storage Temperature: Micro Air admixture should be stored and dispensed at 35 °F (2 °C) or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If it freezes, thaw and reconstitute by mild mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: Micro Air admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of Micro Air admixture has been exceeded.

Safety: Micro Air admixture is a caustic solution. Chemical goggles and gloves are recommended when transferring or handling this material. (See MSDS and/or product label for complete information.)

Packaging

Micro Air admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: Micro Air admixture.

Additional Information

For suggested specification information or for additional product data on Micro Air admixture, contact your BASF Construction Chemicals representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative admixtures for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the North American region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.



BASF Construction Chemicals, LLC
Admixture Systems

www.masterbuilders.com

United States 23700 Chagrin Boulevard, Cleveland, Ohio 44122-5544 • Tel: 800 628-9990 • Fax: 216 839-8821
Canada 1800 Clark Boulevard, Brampton, Ontario L6T 4M7 • Tel: 800 387-5862 • Fax: 905 792-0651

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Description

Pozzutec® 20+ admixture is a multi-component, non-chloride, water-reducing and accelerating admixture formulated to accelerate concrete setting time and increase early and ultimate strengths across a wide range of ambient temperatures (hot, mild, cold and subfreezing). Pozzutec 20+ admixture meets ASTM C 494/C 494M requirements for Type C, accelerating, and Type E, water-reducing and accelerating, admixtures.

Applications

Recommended for use in:

- Concrete being placed in subfreezing ambient conditions
- Reinforced, precast, pumped, flowable, lightweight or normal weight concrete and shotcrete (wet mix)
- Concrete placed on galvanized steel floor and roof systems
- Prestressed concrete
- Fast-track concrete construction
- Concrete subject to chloride ion limitations
- Rheodynamic® Self-Consolidating Concrete
- Pervious Concrete
- 4x4™ Concrete

POZZUTEC® 20+

Accelerating Admixture

Features

- Accelerated setting time
- Especially effective for concrete placement at ambient temperatures as low as 20 °F (-7 °C)
- Superior workability
- Increased early and ultimate strength
- Superior finishing characteristics for flatwork and cast surfaces

Benefits

- Earlier finishing of slabs – reduced labor costs
- Reduced in-place concrete costs
- Reduced or eliminated heating and protection time in cold weather
- Earlier stripping and reuse of forms

Performance Characteristics

Mix Data

Type II cement, lb/yd ³ (kg/m ³)	600 (356)
Slump, in. (mm)	4 ± 1 (100 ± 25)
Air Content, %	Non-air-entrained concrete
Concrete Temperature	55 °F (12 °C)

Mild Weather

Setting Time: Ambient Temperature: 70 °F (21 °C)

Mix	Time of Set	
	Initial Set (h:min)	Comparison (h:min)
Plain	4:30	REF
Pozzutec 20+ admixture @ 10 fl oz/cwt (650 mL/100 kg)	3:18	- 1:12

Cold Weather

Setting Time: Ambient Temperature: 50 °F (10 °C)

Mix	Time of Set	
	Initial Set (h:min)	Comparison (h:min)
Plain	5:48	REF
Pozzutec 20+ admixture @ 20 fl oz/cwt (1,300 mL/100 kg)	4:00	-1:48

Product Data: POZZUTEC® 20+

Subfreezing Weather

Setting Time: Ambient Temperature: 30 °F (-1 °C)

Mix	Time of Set	
	Initial Set (h:min)	Comparison (h:min)
Plain	12:12	REF
Pozzutec 20+ admixture @		
60 fl oz/cwt (3,910 mL/100 kg)	3:54	- 8:18
90 fl oz/cwt (5,850 mL/100 kg)	2:24	- 9:48

Guidelines for Use

Dosage: The specific dosage of Pozzutec 20+ admixture for a given application is dependent on ambient and concrete temperatures, cement chemistry, concrete mixture proportions, the amount of set time acceleration needed and strength performance required. Listed below are the recommended dosage ranges for various weather applications.

Recommended Dosage for Mild and Cold Weather Applications: Use 5 - 60 fl oz/cwt (325 - 3,910 mL/100 kg) of cementitious material. As the dosage rate of Pozzutec 20+ admixture is increased, setting time is accelerated and early and ultimate strengths are increased.

Recommended Dosage for Subfreezing Weather Applications: Use 60 - 90 fl oz/cwt (3,910 - 5,870 mL/100 kg) of cementitious material to reduce the freezable water content of the mixture, to accelerate setting time and to provide early protection against freezing while the concrete is plastic in subfreezing temperatures.

Conservation of the heat generated by the concrete through the use of wind protection and/or insulation will permit placement in subfreezing ambient temperatures. See ACI 306.1, "Standard Specification for Cold Weather Concreting," and ACI 306 R, "Cold Weather Concreting" for recommended protection in cold weather.

Exposure to air movement, concrete surface to volume ratio, and mixture proportions affect performance under extreme cold weather conditions. Concrete containing Pozzutec 20+ admixture may reduce or eliminate the need for recognized protective measures and protection time required in cold or subfreezing weather concreting applications. Field evaluations of the concrete mixture selected for the project should be performed using local materials to determine: the optimum dosage rate of Pozzutec 20+ admixture required to achieve the desired setting time and strength performance, the minimum acceptable ambient and concrete temperatures for placement, and if the recognized protective measures and protection time required for cold and subfreezing weather concreting may be reduced or eliminated.

Concrete containing Pozzutec 20+ admixture that will be exposed to subfreezing weather conditions must be sealed to prevent the ingress of additional water to hardened concrete during curing. A surface sealer must be applied as soon as the concrete reaches initial set or finishing is complete. Confilm® evaporation reducer is recommended to minimize evaporation of surface moisture.

BASF Construction Chemicals, LLC Admixture Systems

www.masterbuilders.com

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Canada 1800 Clark Boulevard, Brampton, Ontario L6T 4M7 ■ Tel: 800 387-5862 ■ Fax: 905 792-0651

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Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: Pozzutec 20+ admixture will neither initiate nor promote corrosion of reinforcing steel in concrete.

Compatibility: Pozzutec 20+ admixture can be used as a singular admixture or as a component in a BASF Construction Chemicals admixture system. When used with other admixtures, each admixture must be dispensed separately into the mixture.

In applications that require Pozzutec 20+ admixture dosages of 30 fl oz/cwt (1,950 mL/100 kg) or more, the use of a Glenium® high-range water-reducing admixture is recommended to obtain increased water reduction and strength performance. At such dosages, erratic slump behavior may be experienced when Pozzutec 20+ admixture is used in concrete mixtures that also contain naphthalene-based admixtures.

Storage and Handling

Storage Temperature: Store at 0 °F (-18 °C) or above. If Pozzutec 20+ admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: Pozzutec 20+ admixture has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of Pozzutec 20+ admixture has been exceeded.

Packaging

Pozzutec 20+ admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: Pozzutec 20+ admixture.

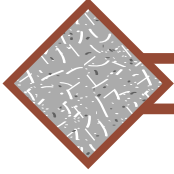
Additional Information

For additional information on Pozzutec 20+ admixture or its use in developing a concrete mixture with special performance characteristics, contact your BASF Construction Chemicals representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative admixtures for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the NAFTA region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

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POLYMESH™



POLYMESH SPEC DATA BULLETIN

DESCRIPTION

PolyMesh™ Synthetic (polypropylene) Fiber for Secondary Concrete Reinforcement is a material utilized in ready - mix concrete to control plastic shrinkage and settlement cracking inherent to unreinforced concrete. PolyMesh fibrillated fiber is manufactured from 100% virgin polypropylene containing no reprocessed olefin materials and is designed specifically for use as a secondary concrete reinforcement. Unless otherwise specified, application rate shall be 1.5lbs per cubic yard of concrete (0.1% by volume). PolyMesh fiber complies with National Building Codes and ASTM C-1116 Type 111, 4.1.3.

BENEFITS

- Alternate method of secondary reinforcement to non-structural wire mesh to control shrinkage and settlement cracking in concrete
- Provides multi-dimensional rather than single plane secondary reinforcement
- Always positioned in compliance with codes
- Inhibits plastic shrinkage cracking in concrete
- Increases impact, shatter and abrasion resistance
- Reduces permeability
- Improves durability and fatigue resistance of concrete
- Accepted by National Building Codes as an alternate method of secondary reinforcement

PHYSICAL PROPERTIES

Material:	100% Virgin Polypropylene	Specific Gravity: 0.91
Modulus:	9.58 (4.0kN/mm ²)	Tensile Strength: 97 ksi avg
Ignition Point:	1100 F (590 C)	Melting Point: 330 F (165 C)
Chemical Resistance:	Excellent	Alkali Resistance: Excellent
Acid & Salt Resistance:	Excellent	Absorption: Nil
Fiber Length:	½", ¾", 1½", 2"	

APPROVALS

- 1.) ICC-ES Evaluation Service, Inc.....Report #ESR-1699
- 2.) Underwriters Laboratories, Inc.....File # R19202
- 3.) Conforms to the requirements of.....ASTM: C1116-03
- 4.) Average Residual Strength of 61 PSI in accordance with.....ASTM: C1399

RECOMMENDED DOSAGE RATE

PolyMesh fiber should be added at the dosage rate of 1.5lbs per cubic yard (.9 Kg per cubic meter) of ready-mixed concrete (0.1% by volume) unless otherwise specified. PolyMesh fiber is packaged in pre-measured water-soluble bags, which are added directly to the concrete mix.

INSTRUCTIONS FOR USE

PolyMesh fiber may be added to the concrete mix at any time before, during or after the batching process. Fiber must be mixed in accordance with ASTM C-94, "Standard Specification for Ready-Mixed Concrete."

PLACEMENT AND FINISHING

Placement and finishing techniques are no different for concrete containing PolyMesh fiber than for plain concrete. It is strongly recommended that no additional mix water be added. Although concrete with PolyMesh fiber may appear to be slightly stiffer than plain concrete, it will not have any negative effect on workability. If required, authorized personnel are available to assist in proper placement and finishing techniques.

FIBROUS CONCRETE SPECIFICATION

Synthetic fiber for secondary concrete reinforcement shall be 100% virgin polypropylene fibrillated fiber containing no reprocessed olefin materials. The specific gravity of the material shall be 0.91 plus or minus .05. The tensile strength of the material shall be 80 to 100 ksi. Fiber shall be $\frac{3}{4}$ " of an inch in the length unless otherwise specified. Manufacturer must document evidence of compliance with any applicable building codes as well as ASTM C-1116 Type 111, 4.1.3. Unless otherwise specified, synthetic fiber shall be used at a dosage rate of 1.5 lbs per cubic yard (.9 Kg per cubic meter). Fiber shall be introduced into the concrete mix at the batch plant as per manufacturer instructions. A PolyMesh representative will be available for initial concrete placement upon request of the specifier. Synthetic fiber shall be supplied by O'Dea Concrete Products Inc., P.O. Box 658, Glens Falls, NY 12801.

LIMITED WARRANTY

O'Dea Concrete Products, Inc. (the "Company") warrants that the goods described herein (the "Goods") are the marketable quality, free from any defects in material and workmanship. The sole remedy in the event of a breach of this warranty shall be liable for any consequential, incidental, special or exemplary damages. This warranty is exclusive and in lieu of all other warranties, whether express or implied, including the implied warranties of merchantability and fitness for a particular purpose. The Company recommends that the ultimate customer and the user determine the suitability of the Goods for the particular purpose used. This warranty gives specific legal rights. State law may provide other rights. For warranty service, a written warranty claim should be delivered to O'Dea Concrete Products, Inc., Attention: Warranty Service Department, P.O. Box 658, Glens Falls, New York 12801.

PolyMesh™ is a trademark of O'Dea Concrete Products, Inc.



PO Box 658

Glens Falls, NY 12801

Phone (518) 668-9680 Fax (518) 668-9679



MATERIAL SAFETY DATA SHEET

READY-MIXED CONCRETE

1. PRODUCT/COMPANY IDENTIFICATION

Manufacturer's Name & Address:

Auburn Concrete
P.O. Box 1747
Auburn, Maine 04211-1747

Trade Name:

Ready-Mix Concrete

Telephone Numbers for Information:

Auburn Plant

82 Goldthwaite Road
Auburn, Maine 04210
(207) 777-7100

Westbrook Plant

93 Scott Drive
Westbrook, Maine 04092
(207) 780-0523

West Bath Plant

50 Arthur Reno Road
West Bath, Maine 04530
(207) 376-5100

2. COMPOSITION INFORMATION

Major Compounds:

<u>Chemical Name</u>	<u>CAS Registry Number</u>	<u>% in this Cement Product</u>
Aggregate*	Mixture	60-100
Limestone (Calcium Carbonate)	1317-65-3	0-100
Crystalline Silica	14808-60-7	> 1
Portland Cement	65997-15-1	3-40

* Composition varies naturally, typically contains Limestone and Crystalline Silica

3. PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	Not Applicable
Specific Gravity (H ₂ O = 1)	2.60 – 2.75
Vapor Pressure (mm Hg)	Not Applicable
Melting Point	Not Applicable
Vapor Density (AIR-1)	Not Applicable
Evaporation Rate	Not Applicable
Solubility in Water	Not Soluble

Appearance & Odor: Crystalline silica is angular grey, white and tan particles ranging in size from powder to boulders; no odor. Concrete is a hard grey mass; no odor (plastic as delivered).

4. FIRE AND EXPLOSION HAZARD DATA

Flash Point	Not Applicable
Extinguishing Media	Not Applicable
Special Fire Fighting Procedures	None
Unusual Fire & Explosion Hazards	Contact with powerful oxidizing agents may cause fire and/or explosions (see Section V of this MSDS)
Flammable Limits	Not Applicable
LEL	Not Applicable
UEL	Not Applicable

5. REACTIVITY DATA

Stability:	Stable. Avoid contact with incompatible materials.
Incompatibility:	Contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions. Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.
Hazardous Decomposition or Byproducts:	Respirable dust particles may be generated when ready-mixed concrete is sawed or ground
Hazardous Polymerization:	Will not occur. No conditions to avoid.

6. HEALTH HAZARD DATA AND FIRST AID

EXPOSURE LIMITS:

Unless specified otherwise, limits are expressed as a time-weighted average (TWA) concentration for an 8-hour work shift of a 40-hour week. Limits for cristobalite and tridymite (other forms of crystalline silica) are equal to one-half the limits for quartz.

ABBREVIATIONS:

ACGIH TLV:	Threshold limit value of the American Conference of Governmental Industrial Hygienists (ACGIH), expressed as a time weighted average (TWA) concentration for an 8-hour work day and a 40-hour work week.
Mg/m³:	Milligrams of substance per cubic meter of air.
NIOSH REL:	Recommended exposure limit of the National Institute for Occupational Safety and Health (NIOSH), expressed as a TWA concentration for up to a 10-hour work day during a 40 hour work week.
OSHA PEL:	Permissible exposure limit of the federal Occupational Safety and Health Administration (OSHA), expressed as a time weighted average (TWA) concentration for an 8 hour work day and a 40 hour work week.
Calcium Carbonate:	OSHA PELs (respirable fraction) 5mg/m ³ , (total dust) 15mg/m ³ , ACGIH TLV 10mg/m ³ , NIOSH REL (respirable) 5mg/m ³ , (total) 10mg/m ³ .

Crystalline Silica SiO₂: OSHA PELs (respirable fraction) [10mg/m³ / (% SiO₂+2)], (total dust) [30mg/m³ / (%SiO₂+2)]; ACGIH TLV (respirable fraction) 0.05mg/m³; NIOSH REL (respirable fraction) 0.05mg/m³.

Portland Cement: OSHA PELs (respirable fraction) 5mg/m³, (total dust) 15mg/m³, ACGIH TLV 10mg/m³, NIOSH REL (respirable) 5mg/m³, (total) 10mg/m³.

Other Particulates: OSHA PELs (total particulate, not otherwise regulated) 15mg/m³, (respirable particulate, not otherwise regulated) 5mg/m³, ACGIH TLV (nuisance particulates)10mg/m³ (inhalable), 5mg/m³ (respirable).

HEALTH HAZARDS:

Primary Route(s) of Entry:

Inhalation: Yes
Skin: Yes
Ingestion: No

Acute:

Eye Contact: Direct contact with dust may cause irritation by mechanical abrasion.

Skin Contact: Wet concrete in plastic state can dry the skin and cause alkali irritation. Direct contact in dry state may cause irritation by mechanical abrasion.

Skin Absorption: Not expected to be a significant exposure route.

Ingestion: Ingestion of large amounts may cause gastrointestinal irritation and blockage.

Inhalation: Dusts may irritate the nose, throat, and respiratory tract by mechanical abrasion. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure limits.

Chronic:

Inhalation: Chronic exposure to respirable dust in excess of appropriate exposure limits may cause lung disease. Silicosis may result from excessive exposure to respirable silica dust for prolonged periods. Not all individuals with silicosis will exhibit symptoms. Silicosis is progressive and symptoms can appear at any time, even after exposure has ceased. Symptoms may include shortness of breath, coughing, or right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Tobacco smoking may increase the risk of developing lung disorders, including emphysema and lung cancer.

Carcinogenicity: Ready-mixed concrete is not listed as a carcinogen by the National Toxicology Program (NTP) or the International Agency for Research on Cancer (IARC). However, crystalline silica is classified by the IARC as a carcinogenic to humans (Group 1). The NTP has characterized respirable silica as “known to be a human carcinogen”. Prolonged and repeated breathing of silica may cause lung cancer.

Signs & Symptoms of Exposure:

Medical Conditions Generally Aggravated by Exposure:

Inhaling respirable dust may aggravate existing respiratory system disease(s) and/or dysfunctions such as emphysema or asthma. Exposure may aggravate existing skin and /or eye conditions.

EMERGENCY & FIRST AID PROCEDURES:

- Eyes: Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.
- Skin: Wash skin with soap and water. Contact a physician if irritation persists or later develops.
- Ingestion: If person is conscious, give large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Get immediate medical attention.
- Inhalation: Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

7. PERSONAL PROTECTION AND CONTROL MEASURES

- Ventilation: Local exhaust or general ventilation adequate to maintain exposures below appropriate exposure limits.
- Other: Respirable dust and silica levels should be monitored regularly. Dust and silica levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.
- Respiratory Protection: When dust or silica levels exceed or are likely to exceed appropriate exposure limits, follow MSHA or OSHA regulations, as appropriate, for use of NIOSH-approved respiratory protection equipment.
- Skin Protection: Protective gloves, shoes and protective clothing should be worn to avoid contact with skin.
- Eye Protection: Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessive (visible) dust conditions are present or anticipated. Contact lenses should not be worn when working with this product.
- Hygiene: Wash dust-exposed skin with soap and water before eating, drinking, smoking and using toilet facilities. Wash work clothes after each use.

8. STORAGE AND HANDLING PRECAUTIONS

Respirable silica and dust may be generated during processing, handling and storage. The personal protection and controls identified in Section VII of the MSDS should be applied as appropriate.

Do not store or handle near food and beverages or smoking materials.

9. SPILL, LEAK AND DISPOSAL PRACTICES

The personal protection and controls identified in Section VII of the MSDS should be applied as appropriate.

Steps to be taken if material is released or spilled: Spilled materials, where dust can be generated, may overexpose cleanup personnel to respirable silica and dust. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Do not dry sweep spilled material. Flush away with water or break up into manageable sized units.

Waste Disposal Method: Dispose of waste materials only in accordance with applicable federal, state and local laws and regulations.

Precautions to be taken in handling and storing: Prolonged exposure of skin to wet concrete should be avoided.

Other Precautions: Ventilation and respiratory protection should be used when removing or modifying hardened concrete.

NOTICE: *Based on research of available data, Auburn Concrete, believes that the information contained in this Material Safety Data Sheet is accurate. The suggested procedures are based on data and experience as of the date of preparation of the MSDS. The suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements. Auburn Concrete's voluntary preparation of this MSDS should not be construed, in any way, as an agreement to be subject to OSHA jurisdiction.*